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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/943,246	08/30/2001	Duane Q. Huynh	SJO920010065US1	8283
48583	7590	12/29/2004	EXAMINER	
BRACEWELL & PATTERSON, LLP PO BOX 61389 HOUSTON, TX 77208-1389			CHEN, TIANJIE	
			ART UNIT	PAPER NUMBER
			2652	
DATE MAILED: 12/29/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/943,246	HUYNH, DUANE Q.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Tianjie Chen	2652	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 04 October 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)     | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## ***Non-Final Rejection***

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-3, 5, 7-9, and 11-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Peterson et al (US 5,999,372).

With regard to claim 1, Peterson et al shows an actuator for a data storage device in Fig. 1, including: an actuator comb (Fig. 2) having a pivot assembly aperture and an actuator arm 116; a leading edge 132 (Fig. 2) on the actuator arm; a trailing edge 132 (Fig. 2) on the actuator arm; and wherein the leading edge and the trailing edge have aerodynamic profiles for reducing a coefficient of air flow drag for the actuator arm (Column 2, lines 33-35), the leading and trailing are tapered along the whole length including the respective ends.

With regard to claim 7, Peterson et al shows an actuator for a data storage device, including: an actuator comb (Fig. 2) having a pivot assembly aperture (Fig. 2), a suspension tongue 116, an actuator arm 116 there between, and leading and trailing edges 132 on the actuator arm, wherein the leading and trailing edges extend from the pivot assembly aperture to the suspension tongue (the front portion of 116 in Fig. 2); and wherein the leading edge and the trailing edge have aerodynamic profiles with triangular cross-sectional shapes for reducing a coefficient of air flow drag for the actuator arm ( Figs. 2 and 6; column 2, lines 33-35).

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With regard to claim 11, Peterson et al shows a hard disk drive in Fig. 1, including: a housing; a spindle motor assembly 104 mounted to the housing and having a central drive hub (Fig. 1); a data storage disk 106 mounted to the spindle motor assembly; a pivot assembly 112 mounted to the housing; an actuator 11 mounted to the pivot assembly for movement relative to the disk, the actuator having a voice coil 114 (Fig. 1), an arm 116 with a suspension 118 mounted thereto, a read/write head 120 on the suspension; a leading edge 132 on the arm; a trailing edge 132 on the arm; and wherein the leading and the trailing edges have aerodynamic profiles for reducing the coefficient of air flow drag for the arm (Figs. 2 and 6; column 2, lines 33-35).

With regard to claims 2, 8, and 12; Peterson et al further shows that the leading and trailing edges 132 are symmetrical.

With regard to claims 3 and 13, Peterson et al further shows that the leading and trailing edges 132 have triangular cross-sectional shapes (Figs. 2 and 6).

With regard to claim 9; Peterson et al further shows that the leading and trailing edges 132 are tapered at their respective ends (Figs. 2 and 6).

With regard to claim 5, Peterson et al further shows that each of the leading and trailing edges 132 extends from the pivot assembly aperture to a suspension tongue (Fig. 2, the front portion of 116).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject

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matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 6 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peterson et al in view of Williams et al (US 6,538,853).

With regard to claims 6 and 10; Peterson et al shows an actuator for data storage device, wherein weight reducing apertures are located in an interior of the actuator arm (Fig. 2), but fails to show aperture has an aerodynamic profile for reducing a coefficient of air flow drag, for the actuator arm.

Williams et al shows an actuator arm having weight reducing aperture 59, which has an aerodynamic profile for reducing the coefficient of air flow drag, for the actuator arm (Fig. 4; column 7, lines 14-18).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to reshape the apertures in Peterson et al's device into the shape taught by Williams et al, which has an aerodynamic profile for reducing the coefficient of air flow drag, for the actuator arm. The rationale is as follows: Peterson et al teaches an actuator arm with apertures and the importance for reducing turbulence, i.e. to reduce the coefficient of air flow drag. Williams teaches carefully shaping the aperture can reduce coefficient of airflow drag (Column 7, lines 14-18). One of ordinary skill in the art would have been motivated to reshape the apertures to reduce the coefficient of airflow drag, for the actuator arm.

***Response to Arguments***

3. Applicant's arguments filed 10/04/2004 have been fully considered but they are not persuasive. Because Peterson et al (US 5,999,372) shows that the leading and trailing are tapered along the whole length including the respective ends.

***Conclusion***

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tianjie Chen whose telephone number is (703) 305-7499. The examiner can normally be reached on 8:00-4:30, Mon-Fri.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Nguyen can be reached on (703) 305-9687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Chen Franje*  
TIANJIE CHEN  
PRIMARY EXAMINER  
12/17/2004